



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/663,315	09/15/2000	Christoph Hermann	PHD 99-175	2350
24737	7590	05/08/2006	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS			NG, CHRISTINE Y	
P.O. BOX 3001			ART UNIT	PAPER NUMBER
BRIARCLIFF MANOR, NY 10510			2616	

DATE MAILED: 05/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/663,315	HERMANN, CHRISTOPH	
	Examiner	Art Unit	
	Christine Ng	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 15 February 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 32-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 32-40 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 15 September 2000 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 32 and 35-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,374,099 to Bi et al in view of U.S. Patent No. 5,537,414 to Takiyasu et al, and in further view of U.S. Patent No. 5,142,533 to Crisler et al.

Referring to claim 32, Bi et al disclose in Figure 1 a wireless network comprising:
A base station (BS 14a-e).

A terminal (MS 12a-c) for exchanging user data and control data with the base station in dependence upon a plurality of persistency probabilities for assigning various transmissions capacities for at least one data packet. Refer to Column 1, lines 11-23 and Column 2, lines 42-48 and lines 54-64.

Wherein the terminal is operable to transmit a first reservation request (access probe sequence) for a first time (first time slot) to the base station in dependence on a first persistency probability (first predetermined threshold P), the first reservation request being associated with a first data packet. In Figure 4, "before transmitting an access probe in each access probe sequence, the wireless station performs a persistence test 68 for every Access Channel slot". The terminal transmits the access probe "only if the wireless unit passes the persistence test for that slot", in which a

Art Unit: 2616

generated random number is compared with a predetermined threshold P. Refer to Column 4, lines 8-19.

Wherein, *after being rejected* (no acknowledgement received) corresponding to the first reservation request by the base station, the terminal is further operable to transmit the first reservation request (access probe sequence) for at least one additional time (next time slot) to the base station in dependence on a second persistency probability (second predetermined threshold P). "If the persistence test fails, the access probe sequence is deferred until at least the next slot" (Column 4, lines 19-21), during which persistence test 68 is performed again. Also, the P values can be "re-calculated at each pass through the persistent test to ensure that updated persistence parameters are used to calculate the P values" (Column 8, lines 8-10).

Wherein, in response to the terminal neither receiving an assignment message (acknowledgement received) nor *being rejected* (no acknowledgement received) corresponding to the first reservation request from the base station after a step-by-step increase of a transmission power to a maximum value by the terminal over at least two transmissions of the first reservation request by the terminal to the base station, the terminal is further operable to transmit the first reservation request for at least one additional time to the base station in dependence of a fourth persistency probability (third predetermined threshold P). Each access probe is transmitted at a power level a specified amount higher than the previous access probe. Refer to Column 3, lines 1-5 and Column 3, line 59 to Column 4, line 7. Furthermore, "If the persistence test fails, the access probe sequence is deferred until at least the next slot" (Column 4, lines 19-

Art Unit: 2616

21), during which persistence test 68 is performed again. Also, the P values can be "re-calculated at each pass through the persistent test to ensure that updated persistence parameters are used to calculate the P values" (Column 8, lines 8-10).

Bi et al do not disclose transmission of a rejection message by the base station.

Takiyasu et al disclose in Figure 2 that each mobile station issues an access request for a slot to the base station by using the request field R3 of the communication frame 30. The base stations replies with access permission information using information field R4. Refer to Column 13, lines 29-41; and Column 3, line 66 to Column 14, line 20. In Figure 11, the base station sends a new access rejection message (step 134) or a new access acceptance (step 136) to the mobile station. The new access rejection message means a collision has occurred on the requested slot and the mobile station has to wait before requesting access again. Refer to Column 11, lines 37-67. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include transmission of a rejection message by the base station. One would be motivated to do so in order to inform the mobile terminal of when it cannot gain access to the channel and needs to retransmit another access request.

Bi et al also do not disclose wherein, during a defined space of time after a complete transmission of the first data packet by the terminal to the base station, the terminal is further operable to transmit a second reservation request in dependence on a third persistency probability, the second reservation request being associated with a second data packet.

Crisler et al disclose in Figure 5 that a mobile unit transmits (520) a reservation request and if it receives (550) a reserved time slot from the base station, the mobile unit can then transmit (560) user data packets in the reserved time slot. Refer to Column 8, lines 27-54. After the data packet is sent to the base station, the terminal can send another reservation request to the base station to transmit another data packet during a defined space of time (when the time slots are designated as random access). Refer to Column 5, lines 43-48 and Column 9, lines 7-11. Crisler et al do not include a third persistency probability. However, Bi et al disclose the use of persistency probabilities to gain access to a channel for data transmission. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include wherein, during a defined space of time after a complete transmission of the first data packet by the terminal to the base station, the terminal is further operable to transmit a second reservation request in dependence on a third persistency probability, the second reservation request being associated with a second data packet. One would be motivated to do so in order to for a mobile unit to request time slots for data transmission, thereby preventing data collision between competing mobile units.

Referring to claim 35, Bi et al disclose that the terminal is further operable to transmit the first reservation request (access probe sequence) for the first time to the base station in further dependence of a first comparison of the first persistency probability (first predetermined threshold P) and a first random number (RP). Refer to Column 4, lines 14-21.

Referring to claim 36, Bi et al disclose that the terminal is further operable to transmit the first reservation request (access probe sequence) for an additional time to the base station in further dependence of a second comparison of the second persistency probability (second predetermined threshold P) and a second random number (RP). The claim does not distinguish between the first random number and the second random number. Refer to Column 4, lines 14-21. Furthermore, as shown in another embodiment in Figure 5, the first random number and the second random number can be different; the system generates (90) a new random number RP at the beginning of each access channel slot. Refer to Column 7, lines 38-44.

Referring to claim 37, Bi et al disclose that the terminal is further operable to transmit the first reservation request (access probe sequence) for an additional time to the base station in further dependence of a second comparison of the fourth persistency probability (third predetermined threshold P) and a second random number (RP). Refer to the rejection of claim 36. Furthermore, "If the persistence test fails, the access probe sequence is deferred until at least the next slot" (Column 4, lines 19-21), during which persistence test 68 is performed again:

Referring to claim 38, Bi et al disclose that the terminal is further operable to transmit the second reservation request (access probe sequence) for an additional time to the base station in further dependence of a second comparison of the third persistency probability and a second random number (RP). Refer to the rejection of claims 36 and 37.

Art Unit: 2616

3. Claims 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,374,099 to Bi et al in view of U.S. Patent No. 5,537,414 to Takiyasu et al in view of U.S. Patent No. 5,142,533 to Crisler et al, and in further view of U.S. Patent No. 6,621,807 to Jung et al.

Referring to claim 33, Bi et al discloses that the data packet comprises a preamble and a data part. Refer to Column 3, lines 9-11.

Bi et al and Crisler et al do not disclose that the terminal is operable to transmit the preamble part as the first reservation request.

Jung et al discloses in Figure 3A that a data packet consists of a preamble (Element 36) and a data part (Element 38). The preamble is a channel designation request flag for the terminal to request designation of a channel on which a message will be sent. Refer to Column 4, lines 1-9. If a message is too long, it is separated into segments. The first segment is transmitted on the common access channel and the rest of the segments are transmitted on an available channel designated by the base station. Refer to Column 3, lines 52-59. This prevents "collisions with other MSs which are simultaneously attempting to transmit on the access channel," (Column 3, lines 58-59). "In response to the channel designation request, the channel used for channel designation may be selected by the BS" (Column 4, lines 18-19). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the preamble is the first reservation request; the motivation being that if a message is too long and is separated into segments, the terminal can request another channel besides the common access channel to transmit additional segments of the

message in order to avoid collision with other terminals using the common access channel.

Referring to claim 34, Bi et al disclose that the data packet comprises a preamble and a data part. Refer to Column 3, lines 9-11.

Bi et al and Crisler et al do not disclose that after receiving an assignment message corresponding to the first reservation request from the base station, the terminal is further operable to transmit the data part to the base station.

Jung et al discloses in Figure 3A that a data packet consists of a preamble (Element 36) and a data part (Element 38). The preamble is a channel designation request flag for the terminal to request designation of a channel on which a message will be sent. Refer to Column 4, lines 1-9. If a message is too long, it is separated into segments. The first segment is transmitted on the common access channel and the rest of the segments are transmitted on an available channel designated by the base station. Refer to Column 3, lines 52-59. This prevents "collisions with other MSs which are simultaneously attempting to transmit on the access channel," (Column 3, lines 58-59). Once the BS designates a channel, "the transmission of all subsequent message segments will occur on the designated channel" (Column 9, lines 7-9). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that after receiving an assignment message corresponding to the first reservation request, the terminal is further operable to transmit the data part of the packet; the motivation being that if a message is too long and is separated into segments, the terminal can request another channel besides the common access

Art Unit: 2616

channel to transmit additional segments of the message in order to avoid collision with other terminals using the common access channel.

4. Claims 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,374,099 to Bi et al in view of U.S. Patent No. 5,142,533 to Crisler et al.

Bi et al disclose in Figure 1 a base station (BS 14a-e) or terminal (MS 12a-c) in a wireless network for exchanging user data and control data with each other in dependence upon a plurality of persistency probabilities for assigning various transmissions capacities for at least one data packet. Refer to Column 1, lines 11-23 and Column 2, lines 42-48 and lines 54-64. The base station or terminal comprises:

Means (Figure 4, Step 68) for transmitting a first persistency probability (predetermined threshold P) to the terminal whereby the terminal has means (Figure 1, antenna on MS 12a-c) operable to transmit a first reservation request (access probe sequence) for a first time (first time slot) to the base station in dependence on the first persistency probability (predetermined threshold P), the first reservation request being associated with a first data packet. In Figure 4, "before transmitting an access probe in each access probe sequence, the wireless station performs a persistence test 68 for every Access Channel slot". The terminal transmits the access probe "only if the wireless unit passes the persistence test for that slot", in which a generated random number is compared with a predetermined threshold P. Refer to Column 4, lines 8-19.

Means (Figure 4, Step 68), subsequent to a transmission of the first reservation request (access probe sequence) for the first time (first time slot) by the terminal to the

base station, for transmitting at least one of a second persistency probability (second predetermined threshold P) and a fourth persistency probability (none) to the terminal whereby the terminal is further operable to transmit the first reservation request for a second time (next time slot) in dependence of the second persistency probability (second predetermined threshold P). "If the persistence test fails, the access probe sequence is deferred until at least the next slot" (Column 4, lines 19-21), during which persistence test 68 is performed again. Also, the P values can be "re-calculated at each pass through the persistent test to ensure that updated persistence parameters are used to calculate the P values" (Column 8, lines 8-10).

Bi et al do not disclose means for transmitting a third persistency probability to the terminal whereby the terminal is further operable to transmit a second reservation request in dependence on the third persistency probability during a defined space of time after a complete transmission of the first data packet by the terminal to the base station, the second reservation request being associated with a second data packet.

Crisler et al disclose in Figure 5 that a mobile unit transmits (520) a reservation request and if it receives (550) a reserved time slot from the base station, the mobile unit can then transmit (560) user data packets in the reserved time slot. Refer to Column 8, lines 27-54. After the data packet is sent to the base station, the terminal can send another reservation request to the base station to transmit another data packet during a defined space of time (when the time slots are designated as random access). Refer to Column 5, lines 43-48 and Column 9, lines 7-11. Crisler et al do not include a third persistency probability. However, Bi et al disclose the use of persistency

Art Unit: 2616

probabilities to gain access to a channel for data transmission. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include wherein, during a defined space of time after a complete transmission of the first data packet by the terminal to the base station, the terminal is further operable to transmit a second reservation request in dependence on a third persistency probability, the second reservation request being associated with a second data packet. One would be motivated to do so in order to for a mobile unit to request time slots for data transmission, thereby preventing data collision between competing mobile units.

Response to Arguments

5. Applicant's arguments filed February 15, 2006 have been fully considered but they are not persuasive.

Referring to the argument that Bi et al do not teach assigning various transmission capacities by a base station for at least one data packet (page 14, line 10 to page 15, line 12): Bi et al disclose that the P values "can be updated when new persistence values are received from the base station, or re-calculated at each pass through the persistence test to ensure that updated persistence parameters are used to calculate the P values" (Column 8, lines 6-10). In a system overload situation, P will decrease because the base station will increase the persistence values for ordinary overload classes, thereby making the persistence test more difficult to pass, so emergency classes can take priority. Refer to Column 4, lines 46-54. Therefore, the transmission capacity of a packet varies since it depends on the changing network

Art Unit: 2616

conditions and the corresponding P value that will also change according to network conditions.

Referring to the argument that Bi et al do not teach that the terminal transmits the reservation request for at least one additional time after a transmission of a rejection message by the base station (page 15, lines 13-22): refer to the new reference U.S. Patent No. 5,537,414 to Takiyasu et al and the rejection of claim 32.

Referring to the argument that Cisler et al do not teach that the terminal transmits a second reservation request after a complete transmission of the first data packet (page 16, line 1 to page 17, line 8): Cisler et al disclose: "*After the data packet is completely received, no more reservations are currently required. The controller then resturns (620) and restores the time slot to random access to enable new reservation requests or unreserved data packets to be received*" (Column 9, lines 7-11).

Furthermore, only the communication unit for whom the time slot is reserved is permitted to transmit packets in that time slot. Other units wishing to access the channel are inhibited until the time slot is re-designated as random access. Refer to Column 5, lines 42-48. Therefore, as shown in Figure 6 (step 680), after a packet is received, new time slot access requests can be made.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Ng whose telephone number is (571) 272-3124. The examiner can normally be reached on M-F; 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C. Ng Cw
May 1, 2006


HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600